

REMARKS

This responds to the Office Action mailed on December 29, 2003.

No claims are canceled, amended, or added. As a result, claims 17-18, 21-23, 26-27, 31-33, 36-40, 42, 44, and 46 remain pending in this application.

Rejection of Claims 17-18, and 36 under 35 U.S.C. §103(a) as Unpatentable over Takubo in View of Barber

Claims 17-18 and 36 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takubo et al. (U.S. 6,329,610) in view of Barber (U.S. 4,701,363).

Takubo discloses a hybrid wiring board (FIG. 17) comprising a first flexible layer 101, a second flexible layer 102, and a third rigid layer 103 (see col. 18, line 66). Takubo also discloses film laminate substrates (FIGS. 11 and 12) comprising a plurality of film substrates.

Barber discloses a flexible film 15 (FIG. 1) having a sprocket hole 13 used for tape automated bonding (TAB).

The Examiner states that it would have been obvious for one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Barber into the device taught by Takubo, because it permits operations on the substrate to be properly registered by reference to the sprocket holes.

To establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine them to arrive at Applicant's claimed subject matter. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. MPEP §2143.

Independent claim 17 recites *inter alia* a thin, flexible, electrically insulating film including a conductor region to mount an integrated circuit and further including at least one sprocket hole in the film, outside the conductor region. There is no suggestion or motivation in Takubo or Barber for combining these references to arrive at the subject matter claimed in claim

17. Applicant respectfully asserts that the suggested combination of Takubo and Barber is based solely upon hindsight and would not have been suggested but for Applicant's own disclosure.

Thus, Applicant respectfully asserts that a *prima facie* case of obviousness has not been established. First, the Examiner has not provided any teaching, suggestion, or motivation in the references themselves. Secondly, the Examiner has not provided any credible teaching, suggestion, or motivation in the knowledge generally available to one of ordinary skill in the art, to combine the Takubo and Barber references to arrive at Applicant's claimed subject matter.

For the above reasons, independent claim 17 should be found to be allowable over any combination of Takubo and Barber, and Applicant respectfully requests that the rejection of claim 17 under 35 U.S.C. §103(a) as being unpatentable over Takubo in view of Barber should be withdrawn.

If an independent claim is nonobvious under 35 U.S.C. §103, then any claim depending therefrom is nonobvious. MPEP §2143.03.

Claims 18 and 36, which depend from claim independent 17 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Rejection of Claims 21-23, 26-27, 37-40, 42 and 44
under 35 U.S.C. §103(a)
as Unpatentable over Takubo
in View of Niwa

Claims 21-23, 26-27, 37-40, 42 and 44 were rejected under 35 U.S.C. §103(a) as being unpatentable over Takubo et al. in view of Niwa et al. (U.S. 6,433,441).

Takubo was discussed earlier.

Niwa discloses an area array type semiconductor device having a substrate (FIG. 1A) comprising a plurality of signal wire lands, ground wire lands, and power wire lands.

The Examiner states that it would have been obvious for one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Niwa into the device taught by Takubo, because it provides interconnection between the integrated circuit and the external device.

Independent claims 21, 26, and 37 each recite *inter alia* a thin, flexible, electrically insulating film including a conductor region. They further recite a plurality of lands on a surface of the film and coupled to the traces, the plurality of lands including a plurality of signal lands around the periphery of the conductor region, the plurality of lands further including a plurality of power and ground lands *within* a central core region of the conductor region.

Note, regarding Niwa, that all of the lands are located *outside* of the “conductor region”, as that term is defined in Applicant’s specification. More specifically, on page 10, beginning line 21, of Applicant’s specification, for example, Applicant defines “conductor region” as “a region that can contain vias, traces, and/or lands anywhere within the boundary of the region, as defined for example by dashed outline 519 of FIG. 5 (to be described below)”. Further, on page 11, beginning line 11, Applicant states that “dashed outlines 519 show locations where ICs will subsequently be mounted. Thus, as used by Applicant, a “conductor region” is used to designate the region of the substrate that lies under the footprint or projection of the IC upon the substrate. Regarding Niwa’s lands, they all appear to lie outside of the “conductor region”.

In further distinction, a number of Niwa’s ground lands appear to be co-located with signal lands, whereas in independent claim 21, Applicant recites a plurality of power and ground lands within a central core region of the conductor region. Applicant has defined the “central core region”, for example, as region 135 of the “conductor region” on the upper surface of substrate 120 (refer to page 10, beginning line 12, of Applicant’s written description, as amended).

To establish a *prima facie* case of obviousness under 35 U.S.C. §103, the prior art reference (or references when combined) must teach or suggest every limitation of the claim. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA, 1974). MPEP §2143.

Further, to establish a *prima facie* case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine them to arrive at Applicant’s claimed subject matter. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant’s disclosure. MPEP §2143.

There is no suggestion or motivation in Takubo or Niwa for combining these references to arrive at the subject matter claimed in independent claims 21, 26, and 37. Applicant

respectfully asserts that the suggested combination of Takubo and Niwa is based solely upon hindsight and would not have been suggested but for Applicant's own disclosure.

Applicant respectfully asserts that a *prima facie* case of obviousness has not been established. The Examiner has not provided any teaching, suggestion, or motivation in the references themselves. Nor has the Examiner provided any credible teaching, suggestion, or motivation in the knowledge generally available to one of ordinary skill in the art, to combine the Takubo and Niwa references to arrive at Applicant's claimed subject matter.

For the above reasons, independent claims 21, 26, and 37 should be found to be allowable over any combination of Takubo and Niwa, and Applicant respectfully requests that the rejection of independent claims 21, 26, and 37 under 35 U.S.C. §103(a) as being unpatentable over Takubo in view of Niwa should be withdrawn.

Claims 22, 23, and 42, which depend from independent claim 21 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Claims 27 and 44, which depend from independent claim 26 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Claims 38-40, which depend directly or indirectly from independent claim 37 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Rejection of Claims 31-33 and 46
under 35 U.S.C. §103(a)
as Unpatentable over Debenham
in View of Takubo and Further in View of Niwa

Claims 31-33 and 46 were rejected under 35 U.S.C. §103(a) as being unpatentable over Debenham et al. (U.S. 6,365,421) in view of Takubo et al., and further in view of Niwa et al.

Takubo and Niwa were discussed earlier.

Debenham discloses a microprocessor 12 (FIG. 1), a bus 18, a display 24, and a memory 14.

Regarding independent claim 31, the Examiner states that it would have been obvious for one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Takubo into the device taught by Debenham, since it is desirable to add functionality to the

device. Applicant respectfully asserts that the Examiner's unsupported statement above should not constitute a substitute for a tangible teaching, suggestion, or motivation in the references themselves or in the knowledge generally available to one of ordinary skill in the art.

The Examiner further states that it would have been obvious for one having ordinary skill in the art at the time the invention was made to incorporate the teaching of Niwa into the device taught by Takubo and Debenham, because it provides interconnection between the integrated circuit and the external device.

Applicant asserted above, regarding the rejection of claims 21-23, 26, 27, 37-40, 42 and 44, that it was improper to combine Takubo and Niwa, because of a lack of a tangible teaching, suggestion, or motivation to do so, and because even if they were combined, they do not together show every limitation recited in independent claims 21, 26, and 37.

Similarly, regarding independent claim 31, the Examiner's suggested combination of Debenham, Takubo, and Niwa fails to show every limitation recited in the claim. Independent claim 31 recites *inter alia* a thin, flexible, electrically insulating film including a conductor region and further including a plurality of lands on a surface of the film and coupled to the traces, the plurality of lands including a plurality of signal lands around the periphery of the conductor region, the plurality of lands further including a plurality of power and ground lands within a central core region of the conductor region.

Nor has the Examiner provided any credible teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to combine the Debenham, Takubo, and Niwa references to arrive at Applicant's claimed subject matter. Applicant respectfully asserts that the Examiner is merely cutting and pasting elements from three patents in an attempt to produce Applicant's claimed subject matter. The Examiner could not have done so without the benefit of hindsight, in having first read Applicant's disclosure.

For the above reasons, independent claim 31 should be found to be allowable over any combination of Debenham, Takubo, and Niwa, and Applicant respectfully requests that the rejection of independent claim 31 under 35 U.S.C. §103(a) as being unpatentable over Debenham in view of Takubo and further in view of Niwa should be withdrawn.

Claims 32, 33, and 46, which depend directly or indirectly from independent claim 31 and incorporate all of the limitations therein, are also asserted to be allowable for the reasons presented above.

Documents Cited But Not Relied Upon For This Office Action

Applicant need not respond to the assertion of pertinence stated for the references cited but not relied upon by the Office Action, because these references are not made part of the rejections in this Office Action. Applicant is expressly not admitting to this assertion and reserves the right to address the assertion should it form part of future rejections.

RESPONSE UNDER 37 C.F.R. 1.116 – EXPEDITED PROCEDURE

Serial Number: 09/893,036

Filing Date: June 27, 2001

Title: FLEXIBLE TAPE ELECTRONICS PACKAGING

Assignee: Intel Corporation

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Dkt: 884.469US1 (INTEL)

Conclusion

Applicant respectfully submits that claims 17-18, 21-23, 26-27, 31-33, 36-40, 42, 44, and 46 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, Walter W. Nielsen (located in Phoenix, Arizona) at (602) 298-8920, or the below-signed attorney (located in Minneapolis, Minnesota) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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Date March 1, 2004

By Ann M. McCrackin

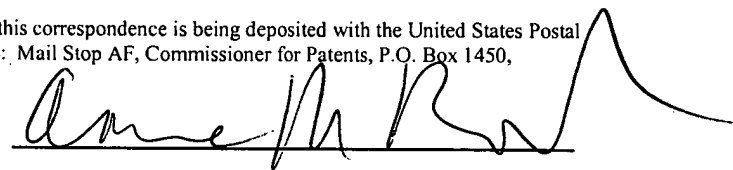
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 1st day of March 2004.

Anne M. Richards

Name



Signature